

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/617,859	HIBST ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sikarl A. Witherspoon	1621	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed 12 December 2005.
2. ☒ The allowed claim(s) is/are 1-6 and 8-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicants' representative, Jason Voight on February 10, 2005.

The application has been amended as follows:

#### AMENDMENTS TO THE SPECIFICATION

At page 4, line 21, please insert:

##### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows an example of the various part reactions and the chemical formulae of the main products and starting materials of the reaction.

Figure 2 shows a two-part catalyst bed as is used when butadiene is the starting material, i.e. when reaction step (1) is omitted.

Figure 3 shows a corresponding three-part catalyst bed as is used when butene is to be used as starting material.

##### DETAILED DESCRIPTION OF THE INVENTION

Claims 5, 8, and 11 have been amended as follows:

5. (Currently Amended) A structured catalyst bed as claimed in ~~claim 1~~ claim 2, wherein the catalytically active part beds (I), (II) and (III) and optionally at least one not necessarily catalytically active intermediate bed are installed in any permutation and repetition.
8. (Currently Amended) A structured catalyst bed as claimed in ~~claim 1~~ claim 2, wherein the catalytically active part bed (I) comprises at least one mixture of at least two oxides of the main group metals and transition metals.

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11. (Currently Amended) A process as claimed in claim 10, wherein butene is used in the feed stream and, in addition to the reactions specified in claim 10, the following reaction is catalyzed by the ~~part a~~ part bed (I) comprising at least a mixture of oxides of the main group metals and transition metals:
- (1) dehydrogenation of butene to butadiene.

### ***Allowable Subject Matter***

The following is an examiner's statement of reasons for allowance: the examiner has considered the amendment filed by applicants on December 12, 2005 and the arguments therein. Applicants' arguments were found persuasive; the examiner concedes that the prior art of record fails to teach or *fairly* suggest a structured catalyst bed having the composition described in the instant claims. Accordingly, a process of using said catalyst bed in a process for producing crotonaldehyde, as also claimed in the present application, is found unobvious in view of the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikarl A. Witherspoon whose telephone number is 571-272-0649. The examiner can normally be reached on M-F 8:30-6:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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*Sikarl A. Witherspoon*  
**SIKARL A. WITHERSPOON**  
**PATENT EXAMINER**